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# **Feasibility and acceptability of theatrical and visual art to deliver fertility education to young adults**

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## **Abstract**

The Fertility Education Initiative was established in 2016 to provide education on fertility, modern families and reproductive science for young adults, teachers, health professionals, parents and adults. We report on our study to determine the feasibility and acceptability of using the arts to delivery fertility education in schools.

The evaluation was mixed methods. Two focus groups with young people aged 14-16 and 16-18 were conducted to investigate attitudes to fertility awareness. Additionally seventeen 16-22 year olds were divided into two groups and each undertook a day of art workshops that consisted of two visual and two theatrical workshops. They completed questionnaires after each workshop and at the end of the day. The artists were interviewed using a semi-structured interview.

Young adults confirmed they were interested in learning about fertility but current understanding varied. The majority thought that fertility education should be delivered in schools at ages 16-18. During the art workshops they learnt some facts but asked for more science and discussion. They felt using art was powerful and they wanted to hear the artists personal stories.

Tools using a number of platforms need to be developed that can be taken into schools nationally and evaluated for their engagement.

## **Introduction**

The need for fertility education arises from changing patterns of family formation over the last decade, including modern families, delayed childbirth and being childless by choice. Globally the age at first conception has increased and is now around 30 years in many countries (Chartmix, 2018). But by age 35, female fertility decline starts to become a significant issue (No, 2014). In the UK, 18% of women over 45 are childless, some not by choice (Office for National Statistics , 2017).

Globally, several initiatives have been launched to determined fertility knowledge among young people (Pedro et al. 2018) and stimulate the inclusion of fertility education in the national curriculum (e.g., Boivin et al., 2013, Haberland and Rogow, 2015, Maeda et al., 2016, myfertility.org). In the UK the Fertility Education Initiative (FEI) was set up in 2016 to provide

education on human fertility, modern families and reproductive science for young adults, teachers, health professionals, parents and adults (Harper et al., 2017). The FEI aims to deliver fertility education under three themes: 1. Understanding human fertility which includes human reproduction and male and female reproductive health. 2. Understanding modern families which includes societal and cultural variations in family building and routes to parenthood. 3. Understanding reproductive technologies which includes what assisted reproductive technology (ART) can and cannot do, and how might it impact on how human beings are made in the future.

Several studies have shown that adolescents (16-18 years) know little about fertility and would like to know more (Mogilevkina et al., 2016; Rovei et al., 2010). However, provision of information on its own does not increase knowledge in adolescents, even if the information is considered important and relevant (Boivin et al., 2018a). Boivin et al., (2018a) gave adolescents (16 to 18) and emerging adults (21 to 24) a fertility education brochure, 'A Guide to Fertility' that addressed 8 key topics (including the risks for reduced fertility and what age to start trying for children). The information in the guide was derived from past research and content considered relevant for adolescents, defining components of fertility awareness (Zegers-Hochschild et al., 2017), and fertility experts. Results showed that provision of fertility information was associated with increased fertility knowledge among emerging adults but not adolescents. It was concluded that information needs to be conveyed in a way that is engaging and helps young people integrate it at their current life stage, as suggested in research on risk awareness (Bunting and Boivin, 2010). A qualitative study from the same group and using the Guide, came to the same conclusion (Boivin et al. 2018b) using a different sample. Results showed that adolescents perceived multiple benefits to fertility education (e.g., learning new information, increased awareness of fertility health and comfort in discussing it, more informed decision-making) but questioned why they needed to know fertility information at this stage of their life.

In 2017, the UK Government introduced compulsory sex education which concentrates on puberty, the basics of sexual intercourse, pregnancy, childbirth, contraception and sexually transmitted infections (sex and relationship education (SRE) guidance, 2000). UK teachers deliver sex education using a variety of tools including powerpoints, animations, games, quizzes and written literature (faculty of sexual and reproductive healthcare (FSRH), 2018). This information is immediately relevant to most teenagers, whereas fertility education may not be something that young adults are thinking about (Boivin et al., 2018a and b, Heywood et al., 2016).

The FEI want to determine how we can engage young adults to think about their future and if this involves having a family. The aim of this project is to determine the feasibility and acceptability of using art to deliver fertility education to adolescents in schools as this method can enrich learning and educational experiences (Roberts et al., 2017).

## **Methods**

## **Participants**

Ethics approval was from University College London Ethics Committee, reference 9831/001.

Two focus groups were conducted with adolescents who were not exposed to any art. Focus group 1 was carried out with 15 girls aged 14-16. Focus group 2 was carried out with 26 girls aged 16-18 from a London girls school. On arrival at the school we learnt that all the girls were Muslim.

Art workshops were presented to 17 adolescents from a local theatre school aged 17-22, including seven males, one trans masculine, nine females, all having an arts school background. Their ethnicity included White British (nine), Black British Ethiopian (one), Black British (one), British Algerian (one), mixed race (one), White Asian (one), Black Caribbean (two) and one did not answer.

The 'artists' included the writers, artistic directors and an academic leading one of the projects. They were aged 27-58; 8 females and one male. Two of the artists did not want children and seven did (three had not tried, one had tried unsuccessfully and three had children (all after having fertility issues).

## **Materials**

### **Focus groups**

Focus group 1 was run over two hours with two interviewees (JH and GV). Focus group 2 was run over two hours with a main facilitator (EC) but also present and contributing were JH, GV, JCH and one of the artists. In both focus groups the adolescents were asked what they were taught about fertility in schools, and what they understood about fertility, modern families and reproductive science.

### **Arts workshop**

For the arts workshops, the 17 adolescents were divided into two groups and each group saw two visual and two theatre artists. Group 1 included Aloe Aloe, Photos I'll never take, Timeless and Mama's Little Angel and Group 2 included Re:Production, Conceiving Histories, Choices, The Genetics Gym (table 1, figure 1). Each art workshop was one hour and comprised of a different set of activities (table 1).

### **Questionnaires**

After each art workshop, the adolescents completed a semi-structured questionnaire. Three questions asked participants to rate 'How much did you feel you learnt about fertility, modern families and reproductive science?' on a 5-point response scale from 'not at all' to 'an extreme amount'. Open text boxes asked participants to describe what aspect of the workshop they found interesting, was there anything they not understand and did they have any concerns. At the end of the day, adolescents completed a questionnaire asking about the whole day which included questions on what art workshops they found engaging, how it felt to discuss fertility, modern families and reproductive science with the artists, where and at what age they thought we should teach

fertility education, if the day made them think differently about fertility, modern families and reproductive science and if they had any unanswered questions.

### **Interviews**

The artists were interviewed by JCH for between 45-60 minutes in a private room using a semi-structured questionnaire. They were all asked four questions: why did you create art about fertility, how many times have you shown your piece, what has been the response, and what is your fertility journey.

### **Procedure**

Recordings were taken of the focus groups, art workshops, artists interviews and other discussions. The two workshops ran concurrently.

### **Data analysis and coding**

Data from the focus groups and questionnaires were combined. Content analysis within a grounded theoretical framework was used for textual analysis according to Silverman (2006) and Henwood and Pidgeon (1992). To assure trustworthiness of data analysis, two researchers coded the data from the focus groups, questionnaire and interviews with the artists. The two coders reviewed and discussed their coding until consensus was reached or it was clear that consensus could not be achieved. Respondents were coded as having 'ever mentioned' a category when the category code was assigned to any of their replies for the question.

## **Results**

The results from the focus groups and questionnaires were organized according to the broad themes that emerged (Table 2).

### **The need to learn about fertility, modern families and reproductive science in school**

From the focus groups the adolescents felt that their fertility knowledge lacks depth, and is not taught systematically in school. They had varying degrees of understanding of sex education, but they are not taught what is normal and not normal in biology. Parents make discussing sex and fertility awkward but the internet is an equalizer because it enables young people to find information. Some did understand that there are modern ways of making a family and that women did not need to have children, but their overall knowledge was poor.

They wanted to know more deeply about fertility "I don't know that much about fertility and reproductive science." (Arts workshop, female) "how long do different processes take?" (Arts workshop, female). They also wanted to know about the different reproductive options, their cost, and how options were relevant to LGBT, "how this can be relevant for queer relationships?" (Arts workshop, male) and where they could get further information.

From the arts workshops, the majority of young adults felt that fertility education should be delivered at school (12/17) but some felt the Internet (2/17), home (2/17) and the press/media (1/17) were also valuable. "I say

school – I think clinics could do more to educate by opening up classes.” (Arts workshop, female). Several thought that theatre, sexual health clinics and YouTube could also be used. The majority of young people felt that the most appropriate age to learn about fertility was from 16-18 (9/17) but others suggested age 14-16 (3/17) and 18-25 (4/17), from a young age “so it is not a shock” (Arts workshop, female) “from childhood to instill basic understanding of biology” (Arts workshop, trans masculine). One was not sure “I’m not sure of the age because I think it should be drip fed throughout education” (Arts workshop, female).

### **Discussion time is imperative**

During the focus groups and art workshops, we ensured there was plenty of time for discussion. The adolescents appreciated the opportunity to discuss this topic and could ask questions that were relevant to them. “I didn’t know (much) and by discussing it with such like minded people it has motivated me to educate myself more and change the education system so more is known about options for fertility.” (Arts workshop, female) “I feel like this topic for conversation is much needed and to talk about with similar open people is very exciting and interesting.” (Arts workshop, female). They had many questions and were comfortable to open up “I found it very easy. I didn’t at any point feel uncomfortable.” (Arts workshop, female).

### **Art is engaging when it relates to the artists’ personal fertility journey**

Adolescents felt that the art workshops gave them ideas that they had not thought of before “It was extremely inspiring and eye opening as there was so much”. (Arts workshop, female) “Storytelling is a great way to spark curiosity and knowledge.” (Arts workshop, female). We heard that the students responded positively to the personal stories of the artists. “Discussing it with artists helped me explore what my own thoughts and feelings were on the matter.” (Arts workshop, female).

Interviews with artists showed that much of the artwork was based on their personal experiences. Some had specific issues with fertility and they felt it was very important to provide an art form to open discussions. They felt it was important to make art that was personal. “I expected a family and career but did not have children even after years of infertility treatments.” Words that often came up in their interviews included “fear, pain, visceral, burden, sadness, madness.”

For those artists who wanted children but had not started trying yet, they mainly felt that the time was never going to be right as they juggled their career and lives with the thought of starting a family. “I expected to be thinking of starting a family by now but I am not.” “Career wise I want to put it off” “Been focusing on career but the art has made me think” “I always wanted a family and career” “Having a child at any time up until now would have been a disaster” “Do not know if I can see a time when I will be ready.”

Two artists did not want children “Never played with a doll, never wanted kids, not been in the story of my life.”

Although students engaged with the personal aspect of the art workshops, they did not feel the artwork was helpful to learn about fertility education “However it (art workshop) did not help educate me. I learnt very little about reproductive science.”” I would have liked to know more in terms of the technicalities of not being fertile and all other options and how it affects people emotionally. “

## **Discussion**

### **Principal findings**

We wanted to determine if adolescents were interested in learning about fertility as this may not have been a topic that many had thought about. Their resounding response was yes, they wanted us to tell them the information and they thought that this should be delivered in schools at ages 16-18. School is a trustworthy place where the majority of pupils will feel safe to learn sensitive information.

From the focus groups and questionnaires, it was clear that the young adults’ understanding of fertility, modern families and reproductive technology was very varied. During the art workshops they learnt some facts but asked for more science and time for discussion. They felt using art was thought provoking and powerful and they wanted to hear the artists personal stories.

### **Art is good but not enough**

In this study we adopted an arts based approach to stimulate learning. Past research has shown that the simple provision of information was not sufficient for adolescents to learn (Boivin et al., 2018a, 2018b). Art has been used effectively in sex education (Roberts et al., 2017) and was considered a potentially engaging approach for fertility education. One reason art works is because it engages in a different way from using the standard narrative such as ‘hello, I am Mary and I have fertility problems.’

In this study, the adolescents found the art engaging, especially because of the personal stories of the artists. The personal stories were complex and assumed different levels of knowledge about reproductive science (e.g., female fertility decline, miscarriage), options (e.g. IVF, childless by choice) and the future (e.g social egg freezing). But it was difficult for the adolescents to follow the content without knowledge of fertility, modern families and reproductive science. For example, Timeless was about egg freezing but the young people did not understand the effect of age on the quantity and quality of eggs. We would argue that the engaging nature of the art workshops was key, but we need to have a firm grounding in facts about fertility, modern families and reproductive science.

### **Limitations**

One of the limitations of this study was that the students exposed to the art workshops were all theatre school students. We assumed that they would find the art engaging so we expected the comments that we had such as “it was such an engaging and efficient way to learn. Replicate this model. This was great” and also “keep doing what you are doing! I love what you’ve done and with some refinement you’ll conquer the world.”

## **Conclusions**

In this study we found that the arts proved to be a highly effective medium for engaging young people in the subject of fertility. But it is key that any programme embeds the scientific information that can lead to further discussions with young people about their fertility, including in PSHE. Ideally this should be delivered over several lessons to embed a comprehensive programme of learning. The arts brings personal stories and creative ideas that young people can respond to and engage with. Using art that young people can relate to is key. For example, in this study Somalia Seaton/Jude Christian's workshop 'Mama's Little Angel' looked at the experience of a teenager diagnosed with infertility and Camilla Whitehill/Lucy Jane Atkinson's workshop 'Aloe Aloe' enabled young people to put themselves in different people's fertility stories. To a greater or lesser degree, all the work chosen proved its ability to engage young people in the subject matter.

Delivering a combined arts and scientific educational programme around fertility education would be highly effective. The challenges would be to secure funding and it may be necessary to digitalize the programme so that teachers could deliver both the creative and factual learning. Tools could be created in such a way that they could be disseminated widely, e.g. the use of recorded lectures by experts, recorded discussions with young adult, animations, a game, and workshops created by the artists and the impact of these tools need to be evaluated. Future work will capture evidence for impact using focus groups and questionnaires for the young adults and teachers involved.

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